

ALBEMARLE CITIZENS' ADVISORY COMMITTEE
COLLEGE OF THE ALBEMARLE
ELIZABETH CITY, NC
FEBRUARY 8, 1989

MINUTES

PRE-MEETING 3:00 PM

ATTENDANCE - SEE ATTACHMENT A

Chairman Chesson welcomed and thanked those present and proceeded to explain to the group the task before them, i.e. the selection and recommendation of Technical, Public Participation and Human Environment proposals solicited through the third cycle "Request for Proposals" (RFP). The committee was divided into two groups for the purpose of discussing and recommending the Public Participation and Human Environment proposals; and the Technical proposals. Deliberations continued in both groups until approximately 6:30 pm when it was suggested by Chairman Chesson that each committee member might purchase a light dinner at the college's cafeteria rather than breaking formally for dinner. As was possible, each member complied with the suggestion. At 7:45 pm the two groups were brought together for the regular business portion of the A-CAC meeting.

AGENDA

ATTENDANCE - SEE ATTACHMENT B

Dr. Chesson reconvened the meeting and again thanked those present for the preceding 4 hours work. He asked for approval of the minutes from the last meeting (November 7, 1988). Captain Al Howard motioned for their acceptance and the motion was seconded by Bill Piland. Motion passed. He then called upon Bob Holman, Program Director, for a program update and short slide show. See Attachment C.

RECOMMENDATION OF PROPOSALS: Attention was then turned to the reporting by Yates Barber and Captain Howard regarding recommendation of the Technical proposals, and the Public Participation and Human Environment proposals respectively.

Yates Barber reported that the Technical Proposals were divided into 3 sections which corresponded to approximately 50-55% of the program funding. Of that 50-55%, 25% was dedicated to Critical Areas; 40% to Water Quality; and 20% to Fisheries. The remaining 15% was dedicated to Human Environment.

Under Critical Areas, proposals numbered 335, 306, 343, 338, 301, 336, 304 and 347 were endorsed.

Under Fisheries, proposals numbered 314, 331, 341, 315, 339, 340, 345, 313 and 316 were endorsed.

Under Water Quality, proposals numbered 344, 309, 311, 357, 317, 356, 305, 333, 318, 349, 348, 319, 333, 354 and 334 were endorsed. All the proposals were ranked in priority order (as listed). A motion by Yates Barber to accept the recommended proposals was seconded by Joe Wright. The motion passed.

Captain Al Howard reported that under Public Participation, proposals numbered 325, 351, 352, 355, 322, 312, 310, 329, 302, 303, 332 and 342 were endorsed. Under Human Environment, proposals numbered 353, 324, 330, 308, 350, 346, 358, 307 and 326 were endorsed. All proposals were ranked in priority order (as listed). A motion to accept the Public Participation and Human Environment proposals as recommended was made by Captain Howard and seconded by Joe Stutts. The motion passed.

Discussion of Early Implementation proposals followed. See Attachment D. The committee subsequently endorsed the Urban BMPs proposal as submitted by the City of Greenville for Stormwater Control; the Agricultural BMP (Waste Management) proposal submitted by the N.C. Association of Soil and Water Conservation Districts - Area 5; the Urban BMPs proposal submitted by the Town of Manteo for Stormwater run-off (pending further info being submitted to Bob Holman) and lastly the Mitigation for the losses of N.C. Bay Scallops to the 1987-88 Red Tide outbreak, submitted by Dr. Charles Peterson, UNC-CH.

In further discussion of Early Implementation projects, Yates Barber moved that the illfated 1988-89 Primary Nursery Area Protection project be replaced with an Early Implementation project dealing with Agricultural BMPs in North Carolina and Virginia. Bill Richardson seconded. Motion carried.

NEW BUSINESS

PUBLIC INVOLVEMENT PLAN: Joan Giordano reported that very few comments were received concerning the second draft of the Public Involvement Plan (PIP). She asked that interested CAC members meet at her office on February 24 for the purpose of finalizing the PIP. NOTE: Due to the snow, a substitute date of March 8th at 10:00 am has been rescheduled to accomplish this. The PIP was endorsed for final revision through a motion by Earl Rountree, seconded by Murray Nixon. Motion carried.

In other new business, A-CAC member Terry Pratt presented a resolution endorsing the establishment of the Roanoke River Wildlife Refuge. See Attachment E. Accompanying Terry were "Mike" Gantt of the A/P Study Policy Committee and Courtney Skinner of the Nature Conservancy. Much discussion ensued resulting in Chairman Chesson reading from the CAC Procedures sheet regarding resolutions brought before the committee. It was decided to table the issue pending pros and cons being sent to Dr. Holman's office by February 15th. That information would

then be mailed to all A-CAC members for discussion prior to the Roundtable Meeting in New Bern on February 27th. Action could be taken then if a quorum were present. NOTE: The group did meet at 4:30 pm on February 27th and decided to endorse the Wildlife Resolution with the stipulation that there would be no condemnation, only willing sellers. It passed by a vote of 8 ayes; 2 nays.

Dr. Holman asked the group to contact him if they had any business they wished to bring to the February 27th Roundtable Meeting. He would be glad to see it placed on the agenda.

There being no further business that evening, the meeting was adjourned at 11:00 pm. The next meeting will be on Tuesday, April 25, 1989 at a time and place to be arranged.

Albemarle Citizens' Advisory Committee
College of the Albemarle
Boardroom

February 8, 1989

3:00 pm & 7:00 pm

Pre-Meeting Agenda

3:00 pm - 6:00 pm

6:00 pm - 7:00 pm

Boardroom

New members' sub-committee
assignments

Public Awareness/Governmental
Relations & Technical Review
Sub-committee Meeting

Dinner break on your own

A G E N D A

7:00 pm - 9:00 pm

Meeting of Albemarle CAC -
Boardroom

1. Welcome

Dr. Chesson

2. Consideration of Minutes

Dr. Chesson

3. A/P Study Slide Show
Presentation

Dr. Holman

4. Recommendations of Technical
& Public Participation
proposals

~~Carolyn Hess~~ Yates Barber
~~John Stallings~~ Al Howard

5. New Business

a.) Public Involvement Plan

Joan Giordano

6. Public Comment

Adjourn

A-CHC

attendance

ATTACHMENT A

2/8/89

3:00 pm

1. Opa Siardak
2. Bill Piland
3. Brewster Brown
4. Joe Smith
5. Murray S. Nipper
6. Earl Routhie
7. John W. Stallings
8. Philip McMullan
9. Don FLOWERS
10. Tom Burns
11. Alfred W. Howard
12. Gates Barber
13. Samuel Cop
14. Fredell Haskell
15. Bob Holman
16. DAVID S. WATSON
17. John S. Brown
18. Joe Brown
19. J. P. Mullen
20. John Jensen

A-CHC Attendance

ATTACHMENT B

2/5/89

7:00 pm

Brewster Brown
Bill Piland
Joe Stutts
John W. Stallings
Earl Rountree
Tom Burns
Fredell Russell
P. Williams
Murray Nixon
Samuel C.
Curtis Evans
Don Flowers
Bill Richardson
Phil McMichael
Joe Wright
Alfred W. Hendrix
Gates M. Barber
DAVID S. WATSON
John A. Son
Garber Clem
Alex Finkland
Hinda Davis
JAMES R. DAVIS (AEA)

PROGRAM STATUS REPORT - DIRECTOR

1) PROPOSALS

- a) 59 received
Information Acq. Public Participation
 Res. Critical (9) (15)
 Water Quality (17)
 Human Environ. (10)
 Fisheries (8)
- b) Review Process
- | | |
|------------------------------------|------------|
| -- CACs | Feb. 7-8 |
| -- Citizens' Affairs | Feb. 10 |
| -- Monitoring | Feb. 13 |
| -- Technical Review | Feb. 14-15 |
| -- Technical Committee | Feb. 21 |
| -- Policy Committee | Feb. 28 |
| -- Proposal Revisions Month | March |
| -- Assemble Cooperative Agreements | April |
| -- OMEP Presentation | April |

2) Roundtable meeting

New Bern, February 27
 Agenda sent out February 21, 1989
 Six topics

3) Early Implementation

Last year/New

- a) Replacement of Primary Nursery Proposal b) Five new proposals

4) Publication List - 14 documents available5) Public Participation Plan - Update final plan review February 24, 19896) WRAL Coastal Celebration - April 8-9, 19897) Data Management - Individual hired to start in March8) Pamphlet - Printed by EPA - no charge to program (available early April)9) Work Plan Update - Standard Operating Procedures Subcommittee - Modeled after 20 milestones in work plan). To be presented to Policy Committee on February 2810) Status & Trend Project - EPA Cooperative Agreement due NCSU by end of February11) EMC Presentation - December 8, 198812) Bill in NC Legislature - Commission to Oversee A/P Study



State of North Carolina
Department of Natural Resources and Community Development
ALBEMARLE-PAMLICO ESTUARINE STUDY
512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor
S. Thomas Rhodes, Secretary

Robert E. Holman, Director

January 27, 1989

MEMORANDUM

TO: Policy Committee
Technical Committee
Citizens' Advisory Committees

FROM: Robert E. Holman, Ph.D. *REH*

SUBJECT: FY 1989-90 Early Implementation (Early Demonstration)
Proposals

Enclosed are five proposals for possible funding during FY 1989-90 budget cycle. These proposals include two urban Best Management Practices (BMP), one agricultural BMP, one bay scallop propagation project and one erosion control structure. The Environmental Protection Agency (EPA) has not set a funding level for each estuarine program but the proposals selected by each program will be competitively chosen from all the estuarine programs. To give you some idea of the expected funding level, last year's two early implementation projects were funded at \$350,000.

Also enclosed under a separate letter is a substitute North Carolina/Virginia early implementation project from last year.

All of these proposals need to be reviewed and discussed at your next meeting. Your recommendations will be incorporated into the overall budget package to be submitted to the Policy Committee for their consideration on February 28, 1989.

If you have any specific questions about any of the proposals, please contact the project office.

Also, I have included with this material February's calendar of events.

REH:kn

Enclosures

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-0314

An Equal Opportunity Affirmative Action Employer

Waters choice

URBAN BMPs; A STORMWATER CONTROL DEMONSTRATION PROJECT

City of Greenville, North Carolina

205K

Objective: To rectify an existing stormwater problem and improve an unsightly area by implementing a water quality sensitive stormwater technology, monitoring its effectiveness, and providing an area for passive recreation in a low and moderate income residential neighborhood.

Why: Urban nonpoint source pollution is a major water quality problem in the Pamlico-Tar River watershed. As the largest community in the basin, Greenville no doubt, is a major contributor to the nonpoint problem. However few (if any) communities in the watershed (Greenville included), have implemented water quality sensitive stormwater controls (urban BMPs). Little information is available regarding the performance and cost of these techniques when used in the North Carolina coastal plain. Before local infrastructure managers are likely to advocate use of these nontraditional technologies, better information is needed on their design, construction, and effectiveness in coastal situations.

What: This project proposes the construction of an extended detention pond on land owned by the Greenville Housing Authority. The pond will collect the first 1/2 inch of rainfall from a drainage area of approximately 200 acres. The drainage area is developed with a mix of medium density residential and commercial uses. A ditch currently drains the area directly into the Tar River. At the project site, the ditch is severely eroded and the water is of questionable quality. The area is littered and overgrown. Adjoining property owners have been seeking improvements to the area for a number of years and have expressed their willingness to work with the City on this project.

By detaining the first flush of stormwater for 48 to 72 hours, the pond is projected to remove 62% of total suspended solids in the stormwater flow. Some heavy metal removal is also expected when metals absorb to settleable solids. Slow discharge of the stormwater through a hardwood swamp is likely to result in additional nutrient removal. Water quality monitoring (for sediments, metal, nutrients, BOD and bacteria) will occur at the pond inlet and outlet. Total project cost is estimated at \$205,000 with approximately 25% of project costs paid through in-kind services by the City.

Who: A Stormwater Project Committee has been meeting weekly since December to develop this grant proposal and the duties and responsibilities of participating parties are now well-defined. The City of Greenville Development Department will coordinate the project. The Planning Division will facilitate planning and design meetings, research land use, serve as the public information contact, and prepare the final project report. The Engineering Division, with the assistance of the Public Works Department and outside consultants as necessary, will develop the final project design. The Public Works Department will have responsibility for constructing the facility and for on-going maintenance when built. The Greenville Utilities Commission, with the guidance of the State Department of Environmental Management, will perform water quality sampling and analysis at the site.

#7.

TOWN OF MANTEO: INSTALLATION
OF BEST MANAGEMENT PRACTICES (BMPs)

Why: The Town of Manteo is a full service community located in the Outer Banks of Northeastern North Carolina in the Albemarle-Pamlico Estuarine Study area. The Town receives heavy annual rainfall. The Town has deficient stormwater facilities and permits rainfall to flow unchecked into Shallowbag Bay. The stormwater contains unfiltered sediments including materials incompatible and detrimental to the aquatic life contained in area wetlands necessary to the proliferation of shellfish and fish species. The Town does not have sufficient resources to implement a stormwater management program that attempts to reduce the amount of incompatible sediments flowing into the bay. The proposed project will institute a system to contain light stormwater runoff in a detention area permitting small particle sedimentation to be filtered and retained and then allow the treated stormwater to flow into the bay. The Town's existing stormwater management plan (1982) will be used for the proposed project.

Who: The Town of Manteo will administer the program. Funds will be administered in compliance with all N.C. Natural Resources and Community Development guidelines and regulations.

What: The specific environmental objective is to reduce the amount of detrimental sediments containing chemicals or organic materials such as motor oil and grease, an excessive fecal coliform count, high phosphate levels from soaps and detergents, gas and automotive cleaning solvents and gardening pesticides and fertilizers from flowing directly and unchecked into Shallowbag Bay. Project success will be measured by samples taken at discharge points for project and non-project (or before and after project implementation) stormwater runoff.

Where: The project will include a part or the entire stormwater system that discharges directly into Shallowbag Bay from the Manteo business district.

When: Following project approval, a committee of Town officials will determine a location for BMP installation and then allocate appropriate funds. The program operates under a 75:25 cost share to which the Town will adhere.

*Wilms
Choice*

\$140K

ALBEMARLE-PAMLICO ESTUARINE SYSTEM

Innovative Approach to Animal Waste Management

Area 5 of the N. C. Association of Soil and Water Conservation Districts recognizes that poor animal waste management practices have resulted in the degradation of water quality in both the Albemarle and Pamlico Drainage Basins. The Albemarle District has written that "animal waste is a major pollutant" in the Albemarle and that proper waste management procedures are needed to improve water quality in the Basin.

The Albemarle District and other Districts have requested that "solid-set waste management systems" (SSWMS) be included in the North Carolina Agriculture Cost Share Program (NCACSP) as a Best Management Practice (BMP). The Technical Review Committee for NCACSP has reviewed these requests and determined that additional information needs to be developed prior to acceptance of the proposed SSWMS as a BMP.

The Bertie District has recently been approved to be the first site for this type of innovative approach to animal waste management. Jim Cummings, NPS Section Chief has worked diligently with all Districts in Area 5 and has agreed to assist with an expanded early implementation project.

Area 5 has a variety of soil types and soil related problems such as high water tables and heavy textured subsoils. Several Districts would like to install SSWMS on eight additional sites to test the effectiveness of these systems on a variety of soils under varied vegetative conditions. All of these Districts have been very active in the NCACSP.

The Soil and Water Conservation Districts along with the USDA, Soil Conservation Service, will provide technical assistance to the landowners in planning, installation and management of the systems. Area 5 would like for the Division of Soil and Water (NPS Section) to assist the Districts with the administration of the program. A request will be made to the Division of Environmental Management to conduct pre and post off-site monitoring to more accurately determine the protection offered by the SSWMS.

A preliminary budget has been developed and \$140,000 is being requested to help provide the structural measures, construction and pumps needed for the eight sites located in the counties of Hyde, Tyrrell, Beaufort, Washington, Currituck, Pasquotank, Chowan, and Perquimans. The landowners have agreed to provide 25% of the cost of implementing the SSWMS in accordance with the cost sharing established in the NCACSP.

Tom Burns

Tom Burns, Area 5 Chairman
N. C. Association of SWCDs

PROPOSAL SUMMARY
(Must be first page of proposal)

320

A. TITLE: Mitigation for the losses of North Carolina bay scallops to
the 1987-88 red tide outbreak

B. DURATION (entire project period): From: Oct 1, 1988 To: Sept 30, 1990

C. A/P STUDY FUNDS: \$ 58,406

D. OTHER FUNDS*: \$ 63,397 (previous year's A/P funds)

E. PRINCIPAL INVESTIGATOR(S), University/Organization, City, State, Zip Code and Telephone Number

Dr. Charles H. Peterson, University of North Carolina at Chapel Hill,

Institute of Marine Sciences, Morehead City, NC 28557

Telephone: 919/726-6841

F*. OTHER FUNDING RECEIVED (previous year A/P Study funding) OR PENDING FOR THIS AND RELATED PROJECTS:

Received: \$63,397 from A/P for first year of this 2-year project; \$23,300

from NC legislature through Sea Grant to evaluate the aquaculture potential

for bay scallops; \$21,133 from Sea Grant to study habitat requirements of
NC hard clams and winter mortality of bay scallops.

G. ENVIRONMENTAL PROBLEM, NEED FOR INFORMATION, ETC.

The 1987-88 outbreak of red tide in coastal NC closed shellfishing from the
Cape Fear River to Avon for ~4 months. This delayed 1987-88 harvest of oysters
and clams but actually killed bay scallops. Over 50% of adults died, but by far
the greatest impact fell upon the new recruits, with numbers reduced to about 2%
of normal years over all of Bogue and Back Sounds, where most of the commercial
harvest occurs. Our fall 1988 recruitment survey shows that the natural 1988
recruitment of bay scallops did not suffice to spread the population back into

H. EXPECTED RESULTS, BENEFITS, UTILIZATION OF INFORMATION, ETC. Bogue Sound.

This project first tests, then implements, methods to mitigate in kind for the
biological and economic losses of bay scallops. In the first year we began and
early in the second year we will conclude tests of the feasibility of collecting
recruits on spat collectors temporarily deployed in surviving scallop beds in Core
and Pamlico Sounds. During the first 7-week deployment in fall 1988, these spat
collectors accumulated up to 120 recruits per bag; using over 800 this yields
nearly 100,000 scallops at minimal cost with reusable materials. Over the next 21
months of our A/P project, we will restock depleted scallop grounds with these
recruits and thereby implement and test the effectiveness of restocking juvenile
bay scallops. We will also transplant adult bay scallops back into western Bogue
Sound prior to spawning, which our first year A/P results demonstrate is necessary
to hasten repopulation of this traditionally most productive area in NC. This
measure will be both implemented and tested in the second year A/P project. Finally,
we will complete in the second year our mapping of the bay scallop resource in NC,
which in conjunction with the previously funded A/P seagrass mapping by NMFS will
be of vital importance to proper designation of ORW's (Outstanding Resource Waters)
within NC.

PROPOSAL SUMMARY
(Must be first page of proposal)

321

- A. TITLE: Marsh Grass Protection iwth Low-Cost Breakwater
Shoreline Erosion Control Demonstration
- B. DURATION (entire project period): From: August 1989 To: August 1991
- C. A/P STUDY FUNDS: \$ 54,158
- D. OTHER FUNDS*: \$ 21,750
- E. PRINCIPAL INVESTIGATOR(S), University/Organization, City, State, Zip Code and Telephone Number
Spencer M. Rogers, Jr., Department of Civil Engineering, NCSU, and
UNC Sea Grant Marine Advisory Service
P.O. Box 130, Kure Beach, NC 28449, 919/458-5780
- F*. OTHER FUNDING RECEIVED (previous year A/P Study funding) OR PENDING FOR THIS AND RELATED PROJECTS:
N/A
- G. ENVIRONMENTAL PROBLEM, NEED FOR INFORMATION, ETC.
Shoreline erosion
Impact of erosion control structures
Incentives to encourage erosion control structures that are environmentally desirable
- H. EXPECTED RESULTS, BENEFITS, UTILIZATION OF INFORMATION, ETC.
Increased marsh area in the estuary
Lower cost erosion control options for property owners
A design guide for landowners and marine contractors
Decrease sediment loading to estuaries



State of North Carolina
Department of Natural Resources and Community Development
ALBEMARLE-PAMLICO ESTUARINE STUDY
512 North Salisbury Street • Raleigh, North Carolina 27611

James G. Martin, Governor
S. Thomas Rhodes, Secretary

Robert E. Holman, Director

January 27, 1989

MEMORANDUM

TO: Policy Committee
Technical Committee
Citizens' Advisory Committees

FROM: Robert E. Holman, Ph.D. *REH/kn*

SUBJECT: FY 1988-89 Substitute Early Implementation Proposal

The Albemarle-Pamlico Estuarine Study (A/P Study) funded two early implementation projects that dealt with agricultural Best Management Practices (BMP). These projects were the Merchant Millpond State Park and Primary Nursery Area Protection studies. The Merchant Millpond project is progressing smoothly; however, the Primary Nursery Area project ran into many serious questions that have not been answered. These questions stemmed from the actual structure that would be constructed in a canal upstream of a primary nursery area. Since questions involving site locations, landowner cooperation, structure design, long-term structure maintenance, possible permits and structure ownership were not answered, the Technical Committee voted at their November 10, 1988 meeting to delay funding of this project until these questions could be answered.

A substitute project involving agricultural BMPs both in Virginia and the North Carolina portion of the watershed was explored. After several meetings with the two state's Soil and Water Divisions, the concept was formed. This project concept was presented to all the administrative boards at their November, 1988 meetings. All committees agreed with the concept and wanted to see the full proposal. Enclosed is the joint proposal from NC/VA Soil and Water Divisions for your review. Please be prepared, during your February, 1989 meetings, to discuss and take action on this joint proposal to replace the Primary Nursery Area Protection Project for FY 1988-89 funding.

If you have any questions about the NC/VA proposal, please contact the program office at (919) 733-0314.

REH:kn

Enclosure

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-0314

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STATE OF NORTH CAROLINA

CHOWAN RIVER BASIN
AREA 5 SOLID-SET WASTE MANAGEMENT SYSTEMS
Initial Proposal - January 18, 1989

According to the North Carolina Department of Natural Resources and Community Development, Division of Environmental Management (DEM) 1986-1987/305B Report (July, 1988), 320 of the 760 miles of streams in the Chowan River Basin are being degraded by agricultural nonpoint source pollution. Area 5 of the North Carolina Soil and Water Conservation Districts (Attachment A) recognizes this problem and realizes that poor animal waste management is a contributor of nutrients to the stream systems of the region. Area 5 feels that a possible solution to the waste management problem is the use of solid-set waste management systems (SSWMS). See Attachment B.

Recently, several Districts in Area 5 requested that the Technical Review Committee (TRC) of the NC Agriculture Cost Share Program (NCACSP) review and approve these SSWMS as an accepted best management practice (BMP) in the Program. The TRC met on January 3, 1989 and requested that additional information be developed before SSWMS can be approved as an acceptable BMP.

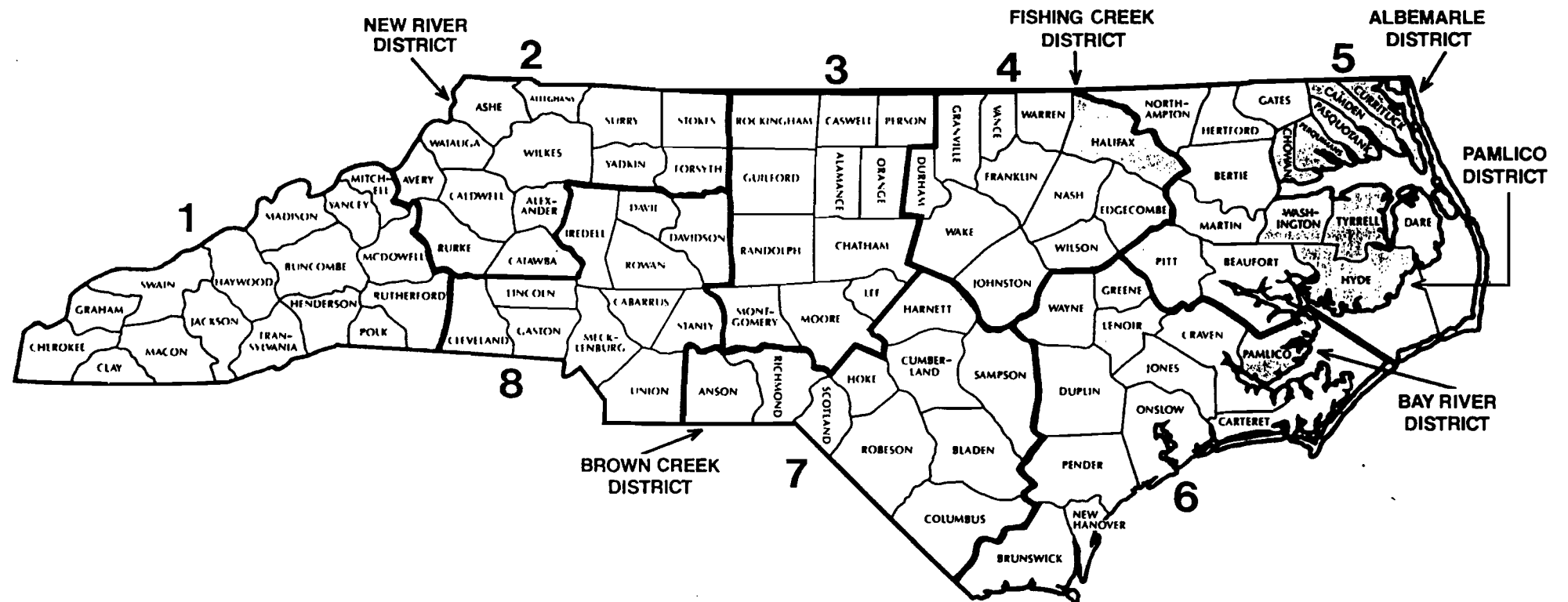
Eight sites in Beaufort, Chowan, Currituck, Hyde, Pasquotank, Perquimans, Tyrrell, and Washington Districts have been selected as possible locations for SSWMS. Each site will involve between 5 and 10 acres and all drain into the Albemarle-Pamlico estuarine system. Varying soil types and textures, water tables and vegetative conditions will test the impact of the SSWMS on the waters of this area. A preliminary request has been made of DEM to conduct pre and post off-site monitoring to more precisely test the soundness of the SSWMS. A verbal agreement to monitor, gratis, has been made on the condition that they be provided with further details of the Project.

Approximately \$140,000.00 is being requested to aid in the implementation of the SSWMS (structural measures, construction, and pipes) and landowners have agreed to be responsible for 25% of the cost of installing these systems. The eight Districts and the USDA Soil Conservation Service will provide engineering and technical support to the landowners.

The Division of Soil and Water Conservation and the Districts will administer the Project following the same guides presently being used to operate the NCACSP. These Districts have been actively involved in the NCACSP since 1987 (one District has been in since 1984) and have spent \$2.2 million in the planning and installation of best management practices, thus are very familiar with the Program and its workings.

Kathy Miller, NPS Section
Division of Soil and Water

A



Areas of North Carolina Association of Soil and Water Conservation Districts



B.

Serving the Counties of:

CURRITUCK
CAMDEN
PASQUOTANK
PERQUIMANS
CHOWAN

104 Dobbs Street
Hertford, NC 27944
Phone: (919) 426-5545

December 20, 1988

Mr. Jim Cummings
Agricultural NPS Cost Share Coordinator
Division of Soil & Water Conservation
Department of NR&CD
P.O. Box 27687
Raleigh, North Carolina 27611

Dear Mr. Cummings:

We, the Albemarle District Supervisors feel that animal waste is a major agricultural pollutant throughout the district and state wide. Although many lagoons have been renovated or constructed with the help of the cost share program, animal waste utilization is still minimal.

The construction of a lagoon is not the final step in animal waste management. Land application of the waste in an environmentally safe manner is the ultimate goal.

We, therefore request that the cost share program help pay for permanent underground PVC pipe that is to be used in a solid set system or as a hook up point for a traveling gun for the sole purpose of pumping the effluent from a lagoon.

Your timely consideration of this matter will be greatly appreciated.

Sincerely,

Floyd Mathews
Floyd Mathews, Chairman
Albemarle Conservation District

Re: Enclosed is an article which illustrates this type of permanent system.

Enclosures:

Forage gains rapid on hog lagoon water

By JIM HUDSON
Farm Press Editorial Staff

ROSEBORO, N.C. — Spray hog lagoon water on Coastal bermudagrass and you can produce an outstanding forage crop.

Ronnie Warren has gotten outstanding gains from stocker steers grazed through the last two summers on lagoon-waste-irrigated bermudagrass.

In 1987, 34 steers gained an average of 2.10 pounds per head per day from March 28 through Aug. 18 on the 5.25 acres of bermudagrass. That's nearly a ton of beef per acre, produced on bermudagrass alone.

This year Warren increased his stocking rate to 61 steers, over 11 steers per acre. They gained an average of 1.61 pounds per head per day with no supplemental feeding.

Frequent lagoon water irrigation

The secret to Warren's successful forage production is frequent irrigation with nutrient-rich hog lagoon water. Until last year he considered the lagoon, which was filling much faster than he anticipated, a major liability. The lagoon takes waste from two finishing houses which handle a total of 1,200 hogs.

He planned to grow bermudagrass simply as a place to dispose of excess lagoon water. But the grass grew so quickly Warren had to go into the hay business or buy cows to keep the grass grazed.

With portable fence posts and electric fencing, he has developed a controlled grazing program that allows his cattle to get the most out of this warm season grass.

Warren installed a solid-set irrigation system and sprayed his first lagoon water in April of 1987. The bermudagrass grew so quickly his 34 steers could not keep up with it. He bought 10 Holstein steers to eat more of the grass and still wound up cutting "a lot of hay."

Generally adequate rainfall this summer caused Warren to irrigate less frequently than he did in 1987. Analysis of his lagoon water showed an average of 70 pounds to 80 pounds of nitrogen in each inch of lagoon irrigation water. He irrigated six times this summer.

"I don't know why there was such a difference in average daily gain this year. But I wonder if it had anything to do with the amount of nitrogen the grass received. There was always plenty of grass for the cattle, but it was not as highly fertilized as last year," Warren noted.

"It could have been the cattle. It could have been how often I moved them. Or, it could have been the nutrient content of the grass. The bottom line, though, is the stocking rate. I thought that was outstanding last year and even better this year."

To get the most out of his grass, Warren cuts the pasture into half-acre or smaller blocks, using temporary electric fencing. Last year he moved his cattle every two or three days. This year he moved them every day.

Plastic coated wire

He used a plastic coated wire that was very easy to roll up and move to change paddock sizes. Portable fence posts made the job very easy.

"Changing the cows from one paddock to another is as simple as walking across the pasture and moving the wire. It takes only a few minutes," Warren said.

He likes to keep the paddocks small enough so the cattle will eat all the available grass before he moves them to another paddock.

"If they are in a larger paddock they will waste more grass. They eat everything in the small paddocks," he said.

How easy is it to move cattle from one paddock to the next?

"When you move them once, they expect you to move them the next day. They are ready every afternoon when I'm ready to move them," Warren noted.

He says he could not have carried 20 steers on this five-acre pasture without cross fencing. With the temporary fencing he more than adequately fed 61 steers.

When excellent growing conditions allow a portion of his pasture to grow more rapidly than the cows can eat it, Warren simply skips a paddock, moving the cattle onto good grazing grass and cutting the remaining paddock for hay.

"If you're going to pump manure on Coastal, you've either got to cut hay or feed cattle. I believe there is more money in feeding cattle," Warren concluded.



PUMPING WATER from his hog waste lagoon onto his bermudagrass pasture is a simple process for Ronnie Warren.



A SOLID SET IRRIGATION system allows Warren to dispose of hog lagoon waste and feed and water his pasture at the same time. Frequent rainfall held his irrigations to only six for this past summer.



WITH PORTABLE fence posts and a roll of plastic covered wire, Warren can quickly move steers from one block of bermudagrass to the next.



State of North Carolina
Department of Natural Resources and Community Development
Division of Soil and Water Conservation
512 North Salisbury Street • Raleigh, North Carolina 27611

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January 4, 1989

David W. Sides
Director

Mr. Floyd Mathews, Chairman
Albemarle Conservation District
104 Dobbs Street
Hertford, North Carolina 27944

Dear Mr. Mathews:

As you requested in your letter dated December 20th, the issue of cost-sharing on permanent underground PVC pipe was brought before the January 3rd meeting of the Technical Review Committee (TRC). Attached for your information is a copy of the minutes taken at that meeting.

The TRC voted to review this issue at its March 1989 meeting. At the March meeting we are to provide the TRC with information as outlined below.

1. How much money involved.
2. Installation Costs (include prices of pipe)
3. Diagram illustrating water quality benefits
4. Pros & cons of limiting maximum number of feet or amount of funds cost shared.

In order to prepare for the March TRC meeting, please provide the aforementioned information on or before February 20, 1989. I would also like to take this opportunity to invite you and/or appropriate SCS employees to the March meeting if you think it might simplify presenting the requested information.

Thank you for all your diligent work and helping make the North Carolina Agriculture Cost Share Program a success. If I can be of any assistance to you, please do not hesitate to call.

Sincerely,

A handwritten signature in cursive script, reading "Jim Cummings".

Jim Cummings

cc: Albemarle District Offices
Sandra Wood

P.O. Box 27687, Raleigh, North Carolina 27611-7687 Telephone 919-733-2302

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JAN 25 1989

Virginia Animal Waste Management Proposal
for the
CHOWAN RIVER BASIN

Nottoway, Blackwater, and Meherrin River watersheds in the
Peanut and J. R. Horsley Soil and Water Conservation Districts

Priority areas of consideration are the Chowan Basin, the
Dismal Swamp/Pasquotank River basin, and the Currituck/Back Bay
basin.

Currituck/Back Bay Basin

The Back Bay drainage of southeastern Virginia is made up
of low-lying, mostly swampy areas that drain to Currituck Sound
in North Carolina.

Agricultural crop lands contribute to nonpoint source
pollution in the form of nutrients and pesticides. The Back Bay
Restoration Foundation has initiated remedial measures that are
now being funded by the Virginia Division of Soil and Water
Conservation in a project that provides \$50,000 annually for two
years to install water control structures. The first formal
signup is nearly complete with \$30,000 requested.

The Virginia Cooperative Extension Service no longer
considers animal waste to be a significant problem in this
watershed since all hog operations are now in controlled
confinement with the waste that is contained in pits or lagoons
being land applied in an acceptable manner.

In addition to funds allocated to water control structures,
approximately \$7,096 is allocated in 1989 to this area under the
Virginia Agricultural BMP Cost-Share Program. These funds will
be administered for other needed conservation and water quality
practices by the Virginia Dare Soil and Water Conservation
District.

The urban runoff program is being assisted by the so-called
"Greenline" which designates certain areas for development with
other areas remaining essentially rural. The City of Virginia
Beach is in the planning stages of a large stormwater management
demonstration at their municipal complex to accelerate their
urban water quality program. This project is at least two years
away from construction.

It would, therefore, appear that no additional funding could
be readily expended in the Currituck/Back Bay basins at this
time.

Dismal Swamp

The Dismal Swamp and a small upland area to its West drains to the Pasquotank River in North Carolina. This basin is not considered to be nutrient sensitive from controllable non-point sources since it is a natural, undeveloped wetlands area with release being controlled by the U. S. Army Corps of Engineers to maintain the integrity of the wetlands. The small upland area that drains to the Dismal Swamp is virtually undeveloped with no known pollution problems.

Chowan Basin

The Chowan Basin includes the Blackwater, Nottoway, and Meherrin rivers as its major tributaries, which then merge below the North Carolina line to form the Chowan River.

The Chowan Basin has been a participant in the Virginia state Cost-Share Program for non-point source pollution abatement since 1983. This was the first area of the State to receive agricultural BMP cost-share assistance. The entire basin has received \$540,718 since that time.

The Peanut and J. R. Horsley Soil and Water Conservation Districts within this area realize the need to further accelerate the installation of BMP's and to target funding for special areas of concern within the Blackwater and Nottoway and Meherrin River Watersheds.

The Chowan River has been subject to declining eutrophic water quality conditions generally attributed to agricultural nonpoint source runoff and point source discharges within the basin. North Carolina has classified the River as nutrient sensitive waters. The Virginia State Water Control Board and other agencies have conducted extensive research into the water quality problems existing in the Virginia portion of the basin and have developed management strategies for improving water quality both within Virginia and North Carolina. (Chowan River Basin 208 Project --Virginia State Water Control Board - 1983.)

Land use in the Chowan Basin is intensely agricultural with Southampton and Sussex counties, which comprise most of the basin, being ranked 1 and 2 for total planted cropland in the State. A 1984 study by the Division of Soil and Water Conservation that was used to develop the Chowan/Chesapeake Bay Agricultural Pollution Control Plan lists swine as 52,665 animal unit equivalents in the entire basin. A Soil Conservation Service 1982 work load analysis estimated that 54% of the confinement wastes were adequately treated, however, recent observations have revealed a serious problem of pit and lagoon overflow, primarily in the Blackwater, Nottoway and Meherrin drainage areas of the Peanut and J. R. Horsley Soil and Water Conservation Districts. A

portion of the targeted funds will be used to land apply pit and lagoon wastes through reel type irrigation systems from the problem lagoons. An animal waste utilization plan and individual management education will accompany each cleanout since this will be the first effort of this type in the Virginia Chowan Basin. Cost-share will be at the rate of \$2/1000 gallon to pump down to the level of the surrounding water table, where the wastes are used for irrigation on the site. Approximately 1/2 the sites will require removal of the wastes by honey wagons at a cost share of \$4/1000 gallon. The goal of the project will be to pump down a total of (25) of these lagoons.

Another primary area of concern is the number of swine that continue to be raised in the woods and swamps. SCS estimates that 10 waste holding systems could be installed within the project scope if funds were available. The second goal of this project will be the construction of (6) new waste holding systems.

The remaining funds will be used to supplement the existing Virginia Agricultural BMP Cost-Share Program. The following practices are being offered to the entire Chowan Basin at present.

<u>BMP</u>	<u>UNIT</u>	<u>STATE RATE</u>
Animal Waste Control Facilities	no. of systems	75%
Buffer Stripcropping	acre	\$15/AC
Diversions	feet	75%
Grass filter strips	lin. ft.	\$0.10/ft.
Grazing land protection	acre	75%
Intensive Rotational Grazing System	acre	50%
Legume Cover Crop	acre	\$25/AC
No-till Cropland	acre	\$15/AC
No-till pastureland and Hayland	acre	\$25
Permanent Vegetative Cover on Critical acres	acre	75%
Protective Cover for Specialty Cropland	acre	\$10/AC
Reforestation of Erodible Crop and Pastureland	acre	\$75/AC
Drop Structures	no. of	75%

	systems	
Sod Waterways	acre	75%
Stream Protection	feet	75%
Stripcropping Systems	acre	\$30/AC +75% of eligible components
Terrace Systems	Feet	75%
Water Table Control Structure	acre	75%
Woodland Buffer Filter Area	acre	\$100/AC
Woodland Erosion Stabilization	acre	75%

The Peanut and J. R. Horsley Soil and Water Conservation Districts will administer the program under the same rules established for the 1989 Virginia Agricultural BMP Cost-Share Program except that these funds will be available only to those portions of the districts that drain to the Nottoway, Blackwater and Meherrin Rivers. While the 75% cost share rate will remain in effect, the existing \$7,500 annual limit on animal waste practices will not be applied to these waste application and storage practices. Funds will be released to the two soil and water conservation districts to pay landowners when BMPs have been installed.

All practices are designed and installed in accordance with SCS and Department of Forestry standards and specifications and are certified by those agencies prior to cost-share payment. The standards include maintenance agreements which will be spot checked by DSWC personnel for the life of the practice.

As in the past, the Virginia State Water Control Board will be conducting monitoring of the Chowan Basin throughout the project period.

The project period is 10-1-88 to 9-30-90 with a draft of the final report presented by February 1990 and a final report by June 1990. Quarterly status reports will be submitted to Robert Holman, (APES Coordinator) and also Ted Bisterfeld, (EPA Project Officer) to insure adequate and timely progress. These reports will be made within 30 days of each quarters end. Installation schedule and estimated practices cost are given in Table I.

TABLE I

Chowan River Basin Project
Installation Schedule & Estimated Practice Costs

<u>Practice</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Estimated Total Costs</u>
1. Land Application of Swine Lagoon Waste			
A. By irrigation	5,125,000 gl.	\$2.00/1000 gl.	\$10,250.00
B. Honey wagon hauling	5,125,000 gl.	\$4.00/1000 gl.	\$20,500.00
2. Animal Waste Management Systems	6	\$13,000	<u>\$78,000.00</u>
Federal Subtotal - - - - -			\$108,750.00
3. J. R. Horsley Soil & Water Conservation District			
A. BMP Allocation			\$ 29,167.00
B. Technical Assistance Allocation			<u>\$ 7,083.00</u>
State Subtotal - - - - -			<u>\$ 36,250.00</u>
Total - - - - -			<u>\$145,000.00</u>

Since the project period only allows one construction year (Spring 1989 thru fall of 1989) it is anticipated that approximately 6 systems could be pumped in the spring of 1989, leaving 15 for the fall of 1989, following corn harvest. Installation of the 10 animal waste systems and BMPs can be continuous throughout the 1989 construction year.

RESOLUTION FOR CONSIDERATION BY THE ALBEMARLE CITIZENS ADVISORY COMMITTEE

February 8, 1989

WHEREAS One of the general charges to the Citizens Advisory Committee is to provide a mechanism for structured citizens input, including providing recommendations into the APES process from their respective regions;

WHEREAS the purpose of the Albemarle-Pamlico Environmental Study is to enable resource managers to preserve better the productivity of the estuarine area by expanding relevant knowledge about the impact of human uses upon its physical, biological, and social systems;

WHEREAS forested bottomland areas along the Roanoke River are necessary to maintaining water quality conducive to fish propagation, notably stripped bass;

WHEREAS forested bottomlands are necessary to perpetuate wildlife populations along the Roanoke River and the establishment of the Roanoke River National Wildlife Refuge will help to ensure the preservation of some of the most productive and prime bottomland habitat in North Carolina;

WHEREAS according to the North Carolina Division of Forest Resources there has been an average annual reduction of 20,000 acres in total forested areas statewide;

WHEREAS the wetlands and forests of northeastern North Carolina's coastal plain support a variety of wildlife and conversion of that land to agriculture, commercial forestry, residential or commercial development, mining, or industrial development can have serious consequences for native organisms;

WHEREAS the Lower Roanoke River Basin is the predominate headwaters of the Albemarle Sound with a drainage basin of 3,506 square miles located in North Carolina;

THEREFORE be it resolved that the Albemarle Citizens Advisory Committee, in accordance with its purpose for existence, supports the establishment of the Roanoke River National Wildlife Refuge. Be it further resolved that the Albemarle Citizens Advisory Committee ask the Pamlico Citizens Advisory Committee to join in support of this resolution and a copy of this resolution be sent to the Governor of North Carolina, the Chairman of the North Carolina Wildlife Resources Commission, the Honorable Walter B. Jones, the Honorable Terry Sanford and the Honorable Jesse Helms.